



IFWO

RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:53

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

Using

3 <110> APPLICANT: Sirna Therapeutics, Inc.
4 McSwiggen, James
5 Macejak, Dennis
6 Morrissey, David
8 <120> TITLE OF INVENTION: RNA Interference Mediated Inhibition of Gene Expression
9 Chemically Modified Short Interfering Nucleic Acid (siNA)
11 <130> FILE REFERENCE: 400/151 (03-465-D)
13 <140> CURRENT APPLICATION NUMBER: US 10/826,966
14 <141> CURRENT FILING DATE: 2004-04-16
16 <150> PRIOR APPLICATION NUMBER: US 10/757,803
17 <151> PRIOR FILING DATE: 2004-01-14
19 <150> PRIOR APPLICATION NUMBER: US 10/720,448
20 <151> PRIOR FILING DATE: 2003-11-24
22 <150> PRIOR APPLICATION NUMBER: US 10/693,059
23 <151> PRIOR FILING DATE: 2003-10-23
25 <150> PRIOR APPLICATION NUMBER: US 10/444,853
26 <151> PRIOR FILING DATE: 2003-05-23
28 <150> PRIOR APPLICATION NUMBER: US 10/652,791
29 <151> PRIOR FILING DATE: 2003-08-29
31 <150> PRIOR APPLICATION NUMBER: US 10/422,704
32 <151> PRIOR FILING DATE: 2003-04-24
34 <150> PRIOR APPLICATION NUMBER: US 10/417,012
35 <151> PRIOR FILING DATE: 2003-04-16
37 <150> PRIOR APPLICATION NUMBER: US 10/427,160
38 <151> PRIOR FILING DATE: 2003-04-30
40 <150> PRIOR APPLICATION NUMBER: PCT/US03/05346
41 <151> PRIOR FILING DATE: 2003-02-20
43 <150> PRIOR APPLICATION NUMBER: PCT/US03/05028
44 <151> PRIOR FILING DATE: 2003-02-20
46 <150> PRIOR APPLICATION NUMBER: US 60/358,580
47 <151> PRIOR FILING DATE: 2002-02-20
49 <150> PRIOR APPLICATION NUMBER: US 60/363,124
50 <151> PRIOR FILING DATE: 2002-03-11
52 <150> PRIOR APPLICATION NUMBER: US 60/386,782
53 <151> PRIOR FILING DATE: 2002-06-06
55 <150> PRIOR APPLICATION NUMBER: US 60/406,784
56 <151> PRIOR FILING DATE: 2002-08-29
58 <150> PRIOR APPLICATION NUMBER: US 60/408,378
59 <151> PRIOR FILING DATE: 2002-09-05
61 <150> PRIOR APPLICATION NUMBER: US 60/409,293
62 <151> PRIOR FILING DATE: 2002-09-09
64 <150> PRIOR APPLICATION NUMBER: US 60/440,129
65 <151> PRIOR FILING DATE: 2003-01-15

pp 6-7
ENTERED

RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:53

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

```

67 <150> PRIOR APPLICATION NUMBER: PCT/US02/15876
68 <151> PRIOR FILING DATE: 2002-05-17
70 <160> NUMBER OF SEQ ID NOS: 669
72 <170> SOFTWARE: PatentIn version 3.3
74 <210> SEQ ID NO: 1
75 <211> LENGTH: 21
76 <212> TYPE: RNA
77 <213> ORGANISM: Artificial Sequence
79 <220> FEATURE:
80 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
83 <220> FEATURE:
84 <221> NAME/KEY: misc_feature
85 <222> LOCATION: (1)..(1)
86 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
88 <220> FEATURE:
89 <221> NAME/KEY: misc_feature
90 <222> LOCATION: (21)..(21)
91 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
93 <400> SEQUENCE: 1
94 uaaccucgua cuggugccuc c 21
97 <210> SEQ ID NO: 2
98 <211> LENGTH: 21
99 <212> TYPE: RNA
100 <213> ORGANISM: Artificial Sequence
102 <220> FEATURE:
103 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
106 <220> FEATURE:
107 <221> NAME/KEY: misc_feature
108 <222> LOCATION: (1)..(1)
109 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
111 <220> FEATURE:
112 <221> NAME/KEY: misc_feature
113 <222> LOCATION: (21)..(21)
114 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
116 <400> SEQUENCE: 2
117 ggaggcacca guacgagguu a 21
120 <210> SEQ ID NO: 3
121 <211> LENGTH: 21
122 <212> TYPE: RNA
123 <213> ORGANISM: Artificial Sequence
125 <220> FEATURE:
126 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
129 <220> FEATURE:
130 <221> NAME/KEY: misc_feature
131 <222> LOCATION: (1)..(1)
132 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
134 <220> FEATURE:
135 <221> NAME/KEY: misc_feature
136 <222> LOCATION: (21)..(21)

```

RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:53

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

```

137 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
139 <400> SEQUENCE: 3
140 aaacuccaag auctcccauc a 21
143 <210> SEQ ID NO: 4
144 <211> LENGTH: 21
145 <212> TYPE: RNA
146 <213> ORGANISM: Artificial Sequence
148 <220> FEATURE:
149 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
152 <220> FEATURE:
153 <221> NAME/KEY: misc_feature
154 <222> LOCATION: (1)..(1)
155 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
157 <220> FEATURE:
158 <221> NAME/KEY: misc_feature
159 <222> LOCATION: (21)..(21)
160 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
162 <400> SEQUENCE: 4
163 ugauuggggga ucuuggaguu u 21
166 <210> SEQ ID NO: 5
167 <211> LENGTH: 21
168 <212> TYPE: RNA
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
175 <220> FEATURE:
176 <221> NAME/KEY: misc_feature
177 <222> LOCATION: (1)..(1)
178 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
180 <220> FEATURE:
181 <221> NAME/KEY: misc_feature
182 <222> LOCATION: (21)..(21)
183 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
185 <400> SEQUENCE: 5
186 guuggagucu guaggacuug g 21
189 <210> SEQ ID NO: 6
190 <211> LENGTH: 21
191 <212> TYPE: RNA
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
198 <220> FEATURE:
199 <221> NAME/KEY: misc_feature
200 <222> LOCATION: (1)..(1)
201 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
203 <220> FEATURE:
204 <221> NAME/KEY: misc_feature
205 <222> LOCATION: (21)..(21)
206 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety

```

RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:53

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

```

208 <400> SEQUENCE: 6
209 ccaaguccua cagacuccaa c 21
212 <210> SEQ ID NO: 7
213 <211> LENGTH: 21
214 <212> TYPE: RNA
215 <213> ORGANISM: Artificial Sequence
217 <220> FEATURE:
218 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
221 <220> FEATURE:
222 <221> NAME/KEY: misc_feature
223 <222> LOCATION: (1)..(1)
224 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
226 <220> FEATURE:
227 <221> NAME/KEY: misc_feature
228 <222> LOCATION: (21)..(21)
229 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
231 <400> SEQUENCE: 7
232 gcaaaaaccc ugugauuucc u 21
235 <210> SEQ ID NO: 8
236 <211> LENGTH: 21
237 <212> TYPE: RNA
238 <213> ORGANISM: Artificial Sequence
240 <220> FEATURE:
241 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
244 <220> FEATURE:
245 <221> NAME/KEY: misc_feature
246 <222> LOCATION: (1)..(1)
247 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: (21)..(21)
252 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
254 <400> SEQUENCE: 8
255 aggaaucac aggguuuuug c 21
258 <210> SEQ ID NO: 9
259 <211> LENGTH: 21
260 <212> TYPE: RNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
267 <220> FEATURE:
268 <221> NAME/KEY: misc_feature
269 <222> LOCATION: (1)..(1)
270 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
272 <220> FEATURE:
273 <221> NAME/KEY: misc_feature
274 <222> LOCATION: (21)..(21)
275 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
277 <400> SEQUENCE: 9

```

RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:53

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

```

278 uuggucaguu ucuggcaguu c 21
281 <210> SEQ ID NO: 10
282 <211> LENGTH: 21
283 <212> TYPE: RNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
290 <220> FEATURE:
291 <221> NAME/KEY: misc_feature
292 <222> LOCATION: (1)..(1)
293 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
295 <220> FEATURE:
296 <221> NAME/KEY: misc_feature
297 <222> LOCATION: (21)..(21)
298 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
300 <400> SEQUENCE: 10
301 gaacugccag aaacugacca a 21
304 <210> SEQ ID NO: 11
305 <211> LENGTH: 21
306 <212> TYPE: RNA
307 <213> ORGANISM: Artificial Sequence
309 <220> FEATURE:
310 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA sense region
313 <220> FEATURE:
314 <221> NAME/KEY: misc_feature
315 <222> LOCATION: (1)..(1)
316 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
318 <220> FEATURE:
319 <221> NAME/KEY: misc_feature
320 <222> LOCATION: (21)..(21)
321 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
323 <400> SEQUENCE: 11
324 gguccuuucu uggaucaacc c 21
327 <210> SEQ ID NO: 12
328 <211> LENGTH: 21
329 <212> TYPE: RNA
330 <213> ORGANISM: Artificial Sequence
332 <220> FEATURE:
333 <223> OTHER INFORMATION: Description of Artificial Sequence: siNA antisense region
336 <220> FEATURE:
337 <221> NAME/KEY: misc_feature
338 <222> LOCATION: (1)..(1)
339 <223> OTHER INFORMATION: 5'-3 attached terminal deoxyabasic moiety
341 <220> FEATURE:
342 <221> NAME/KEY: misc_feature
343 <222> LOCATION: (21)..(21)
344 <223> OTHER INFORMATION: 3'-3 attached terminal deoxyabasic moiety
346 <400> SEQUENCE: 12
347 gggguugaucc aagaaaggac c 21

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/826,966

DATE: 09/24/2004
TIME: 13:40:54

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt
Output Set: N:\CRF4\09242004\J826966.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:67; N Pos. 20,21
Seq#:68; N Pos. 20,21
Seq#:69; N Pos. 20,21
Seq#:70; N Pos. 20,21
Seq#:71; N Pos. 20,21
Seq#:72; N Pos. 20,21
Seq#:73; N Pos. 20,21
Seq#:74; N Pos. 20,21
Seq#:75; N Pos. 20,21
Seq#:76; N Pos. 20,21
Seq#:77; N Pos. 20,21
Seq#:78; N Pos. 20,21
Seq#:79; N Pos. 20,21
Seq#:80; N Pos. 20,21
Seq#:82; N Pos. 14,15
Seq#:84; N Pos. 12,13
Seq#:85; N Pos. 20,21
Seq#:86; N Pos. 20,21
Seq#:87; N Pos. 20,21
Seq#:88; N Pos. 20,21
Seq#:89; N Pos. 20,21
Seq#:90; N Pos. 20,21
Seq#:91; N Pos. 20,21
Seq#:92; N Pos. 20,21
Seq#:93; N Pos. 20,21
Seq#:94; N Pos. 20,21
Seq#:95; N Pos. 20,21
Seq#:96; N Pos. 20,21
Seq#:97; N Pos. 20,21
Seq#:98; N Pos. 20,21
Seq#:99; N Pos. 20,21
Seq#:100; N Pos. 20,21
Seq#:101; N Pos. 20,21
Seq#:102; N Pos. 20,21
Seq#:103; N Pos. 20,21
Seq#:104; N Pos. 20,21
Seq#:105; N Pos. 20,21
Seq#:106; N Pos. 20,21
Seq#:107; N Pos. 20,21
Seq#:108; N Pos. 20,21
Seq#:109; N Pos. 20,21
Seq#:110; N Pos. 20,21
Seq#:111; N Pos. 20,21
Seq#:112; N Pos. 20,21

RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:54

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

Seq#:113; N Pos. 20,21
Seq#:114; N Pos. 20,21
Seq#:115; N Pos. 20,21
Seq#:116; N Pos. 20,21
Seq#:117; N Pos. 20,21
Seq#:118; N Pos. 20,21
Seq#:119; N Pos. 20,21

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:175; Line(s) 3562
Seq#:290; Line(s) 5618
Seq#:474; Line(s) 13058
Seq#:478; Line(s) 13265
Seq#:482; Line(s) 13467
Seq#:486; Line(s) 13639
Seq#:490; Line(s) 13811
Seq#:494; Line(s) 13983
Seq#:498; Line(s) 14160
Seq#:502; Line(s) 14342
Seq#:506; Line(s) 14519
Seq#:521; Line(s) 14789
Seq#:522; Line(s) 14821
Seq#:523; Line(s) 14848
Seq#:524; Line(s) 14875
Seq#:525; Line(s) 14902
Seq#:526; Line(s) 14934
Seq#:527; Line(s) 14966
Seq#:528; Line(s) 14999
Seq#:529; Line(s) 15032

VERIFICATION SUMMARY

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:54

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

L:1387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:0
L:1405 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:0
L:1423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69 after pos.:0
L:1441 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:70 after pos.:0
L:1464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:71 after pos.:0
L:1512 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:0
L:1535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73 after pos.:0
L:1558 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74 after pos.:0
L:1581 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0
L:1604 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0
L:1652 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77 after pos.:0
L:1680 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:0
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:79 after pos.:0
L:1726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:0
L:1756 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:0
L:1786 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:0
L:1839 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:0
L:1862 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0
L:1915 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87 after pos.:0
L:1933 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:0
L:1951 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:0
L:1969 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:0
L:1987 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:0
L:2005 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:0
L:2023 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:0
L:2041 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94 after pos.:0
L:2059 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:95 after pos.:0
L:2077 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:96 after pos.:0
L:2095 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:97 after pos.:0
L:2113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:98 after pos.:0
L:2131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:99 after pos.:0
L:2174 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:100 after pos.:0
L:2197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:101 after pos.:0
L:2245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102 after pos.:0
L:2268 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:103 after pos.:0
L:2291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:104 after pos.:0
L:2314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:105 after pos.:0
L:2337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106 after pos.:0
L:2355 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:107 after pos.:0
L:2373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:108 after pos.:0
L:2391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:109 after pos.:0
L:2409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:110 after pos.:0
L:2427 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:111 after pos.:0
L:2445 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:112 after pos.:0
L:2463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:113 after pos.:0
L:2481 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:114 after pos.:0
L:2499 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115 after pos.:0
L:2517 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:116 after pos.:0

VERIFICATION SUMMARY

DATE: 09/24/2004

PATENT APPLICATION: US/10/826,966

TIME: 13:40:54

Input Set : D:\400 151 (MBHB03-465-D) Sequence Listing.txt

Output Set: N:\CRF4\09242004\J826966.raw

L:2535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:117 after pos.:0
L:2553 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:118 after pos.:0
L:14748 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (517) SEQUENCE:
L:14754 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (518) SEQUENCE:
L:14760 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (519) SEQUENCE:
L:14765 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (520) SEQUENCE:
L:15089 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (531) SEQUENCE: